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ABSTRACT

This qualitative study examined the structure and interaction in an online course from the meaning-perspectives of the actors involved. Participants were a teacher and teaching assistant who taught a graduate course in distance education at Arizona State University, delivered through a computer conferencing system. Data collected included interviews, observations, and messages posted by participants to a virtual classroom environment. Findings suggested that, while teachers conceded that they spent more time teaching an online course than a traditional face-to-face course, they believed the online teaching experience to be a worthwhile endeavor. In the context of an online course, teachers felt that they were more present and available for students than in a traditional course. Results of the study also suggest that students displayed better commitment to their work in an online course than a traditional course, because they have close interaction with the teacher. This close interaction can offset the lack of control the students may feel in a highly structured distance course. The personality, emotions, philosophy, and educational background of the teacher determine the structure and design of an online course, including the amount of interaction and time the teacher spends on online activities. (Author/MES)

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Distance Education: Learner-Teacher Interaction and Time Spent by Teaching Faculty

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Abstra

This qualitative study examined the structure and interaction in an online course from the meaning-perspectives of the actors involved. Data collected included interviews, observations and messages posted by participants to a virtual classroom environment. Findings suggested that while teachers conceded that they spent more time teaching an online course than a traditional face-to-face course, they believed the online-teaching experience to be a worthwhile endeavor. In the context of an online course, teachers felt that they were more 'present' and available for students than in a traditional course.

Results of the study also suggest that students displayed better commitment to their work in an online course than a traditional course because they have close interaction with the teacher. This close interaction can offset the lack of control the students may feel in a highly structured distance course. The personality, emotions, philosophy and educational background of the teacher determine the structure and design of an online course, including the amount of interaction, and time the teacher spends on online activities.

Introduction

Most early definitions of distance education include a teacher and a student separated by geographical distance or time (McIsaac & Gunawardena, 1996). The learner, teacher, and a medium of communication are the most distinguishing features of distance education. Interactions and relationships between teachers and students in distance education are extremely important and learners usually carry on dialog with instructors across space and time, using communications media. Students work within specified course requirements or structure determined by the teacher in advance. The geographic distance between learner and teacher creates what is termed 'transactional distance' (Moore, 1991).

Course structure and learner-teacher dialog are important elements in transactional distance. Transactional distance is defined by Moore (1991) as a "...[d]istance of understandings and perceptions, caused in part by the geographic distance, that has to be overcome by teachers, learners and educational organizations if effective, deliberate, planned learning is to occur." Moore postulated that high (rigid and inflexible) program structure reduced dialog, and therefore increased transactional distance. Several researchers including Saba and Shearer (1994), Bischoff, Bisconer, Kooker and Woods (1996) have verified and expanded the concept of transactional distance. They elaborated on Moore's work by saying that transactional distance decreases when dialog increases and structure increases. Conversely, increased structure and decreased dialogue increase transactional distance. Students in a distance setting communicate more with their teacher than students in a traditional class format (Bischoff et al, 1996). Communication in distance settings is usually through the medium of electronic mail; however, several courses now employ highly interactive technologies such as two-way video.

Interaction between Teacher and Student

From the student's perspective, interaction with the teacher is a means of obtaining feedback and guidance. Feedback in an online environment may be either synchronous (immediate and in real-time) or asynchronous (delayed). Timely response to questions from students produced relatively good results in online courses (Starr, 1995). This was irrespective of the type of course and the kinds of online activities required by the teacher. Other research findings (Egan, et al., 1991) on the need for interaction have shown that learners value timely feedback regarding course assignments, exams, and projects. Instructors comment that students in an online environment expect more immediate feedback than students in a traditional class. While increased teacher-student interaction is good, it is time-consuming; therefore, it is important to examine whether increased interaction with the teacher affects the quality of student learning. While studies (Harasim, 1990; Waggoner, 1992) show that computer mediated conferencing with student-teacher interaction produces positive results, this is an issue that warrants more research (Kearsley, 1995).

Beginner teachers of online courses feel overwhelmed with the amount of time they spend interacting with each student (Tinker, 1997). The model that is used in designing a particular course is key to determining the time spent on that course. Some teachers expect to communicate with every student individually as they try to replicate

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the traditional model of instruction in online teaching. Such a model can make communication with even a small group of students tedious, and can make professors feel as if they are holding unlimited office hours. A less cumbersome and more productive model is the seminar model (Tinker, 1997) in which the teacher structures the virtual classroom by laying out activities and facilitating communication among students. In this model the teacher refrains from having extended individual conversations with students. Instead, the teacher encourages students to communicate with each other, moderates, and guides discussions. The advantage of such a model is that it is more scalable and productive for the teacher. Also, it is more suited for constructivist learning environments, and allows the student to actively construct an internal representation of knowledge by interacting with the material to be learned. Even when implementing a seminar model, a teacher can spend a lot of time on an online course when compared with a traditional face-to-face class.

Time Spent By Teaching Faculty

While students can approach a teacher directly during class in a traditional classroom when they have problems, students in an online course can participate and receive feedback on a daily basis. The onus is therefore on the instructor to sign on to the conferencing system on a daily basis and respond to any waiting questions. Starr (1995) reports that teachers believe that it takes them about 30 minutes to an hour each day to complete this activity depending on the number of students and the extent to which they are involved in the course. The conscientious teacher therefore becomes a "perpetual professor" (Starr, 1995) rather than teaching for a few specific hours in a week. Teachers need to keep abreast of ongoing dialog in different discussion tracks and maintain class web sites (University of Wisconsin, 1996; Creed, 1996). While learners benefit significantly from, and are more motivated if they are in frequent contact with the instructor (Coldeway, et al., 1980); teachers find this a very time-intensive task. Kearsley (1995) also urges distance education programs to make cost/benefit evaluations of interaction in terms of preparation time versus instructional effects. In a case study that focused on a distance education class taught using television, he concludes that the benefit of increased interaction are higher student involvement and satisfaction with courses; however, he is unconvinced that the costs involved in obtaining these results balance out the benefits.

Several researchers have called for further research on teaching an online course from the teacher's perspective. It is important to examine the obstacles and limitations in teaching an online course (Berge, 1997) and examine the distance teacher's perspective of dialog, structure and transactional distance (Bischoff et al, 1996). The present study explores teacher-learner interaction from the perspective of the teacher, and outlines the complex interaction of time spent on teaching an online course in relation to course structure and dialog. The study also examines the area of time spent by teachers of online courses and attempts to further the understanding of how the time is spent and whether teachers consider teaching online a worthwhile investment of their time. Important outcomes of teaching the course such as satisfaction, and a sense of achievement are examined from the perspectives of the actors involved in the particular setting. It is important for us to examine issues faced by faculty related to time, particularly because time is a top priority for most distance education faculty (Sherry, 1996).

Purposes Of the Study

To explore the issues of interaction and time discussed above, the following questions were investigated:

1. What are the responsibilities of an online teacher?
2. How much time does the teacher spend on each of these responsibilities?
3. Does the teacher consider teaching the online course a worthwhile experience?
4. How does the philosophy and background of the teacher affect course design and consequently the amount of interaction and time the teacher spends on an online course?

Method

Setting and Participants

The participants in this study were a teacher and a teaching assistant who taught a graduate course in distance education delivered through the medium of a computer conferencing system during summer 1998. The instructor is a professor who has been teaching courses about distance education. She pioneered the use of online technologies for course delivery at the university for graduate-level courses.

The course was one of the several courses offered by Arizona State University in the distance setting (http://seamonkey.ed.asu.edu/~mcisaac/disted/). There were seventeen students in the class that summer. The course employed the World Wide Web and computer conferencing technologies for course delivery and included a combination of face-to-face and online instruction. It was conducted mainly at a distance because teachers and students did not meet face-to-face except for the first three sessions of the class. The class was supported with the help of a text-based computer conferencing software called FirstClass which is a closed environment that only members of the class can access. The system allows students and teachers to engage in both synchronous (chat) and

asynchronous (e-mail, contribution to folders) communication. It also provides file transfer capability and can link directly to the web. This feature enables students to connect to specific web addresses that are included in discussions.

Several folders were created as part of the FirstClass environment. The News folder was available for general discussions between students and any announcements that teachers wanted to make. Students were required to participate in group-discussions each week by posting messages to specific folders. The general area of discussion was predetermined. However, students could choose a specific topic of discussion within the given area. Students were required to act as moderators for at least one discussion (either individually or in groups) in the semester and had to post two questions for each discussion on the weekly topic. Every student had to respond to each question at least once during the week. It was the moderator's responsibility to summarize the results of the discussion and post them online once the discussion was complete.

Teachers and students met face-to-face during the first three days of the course. This was done so that students could familiarize themselves with the conferencing system and the format, requirements, and schedule of the course. The class web site provided information about assignments, schedule, resources to students. The teaching assistant maintained postings of students' work and constantly updated that portion of the web site. After the first three face-to-face meetings, class continued online for five weeks. Then, class met face-to-face one more time at the end of the course.

Data Collection

Qualitative Data

Erickson's (1986) interpretive method was chosen to analyze the qualitative data. Erickson uses the process of analytic induction for data analysis. His approach to qualitative data analysis is holistic. He believes in looking at the data as a whole, rather than splitting up the data into categories. The researcher did not code the data, but read and re-read the data in order to generate assertions from the data. Assertions are generally statements that one can make about the data. They may be statements about relationships observed in the data, hypotheses or propositional statements. Warranting of assertions is important in the Erickson approach. Warranting consists of searching the entire data for confirming and disconfirming evidence for the assertion. On finding disconfirming evidence, the researcher may need to reframe the assertion or modify it. If confirming evidence does not predominate, then an assertion may be dropped. However, sometimes, an assertion may be acceptable even if the amount of confirming evidence is greater than the amount of disconfirming evidence available. Ideally, assertions are warranted by many instances of data from various sources such as interviews, field notes and site documents. This step of warranting assertions is important because it ensures that the researcher is not reacting to rare and dramatic events. Finding these links between the data and the events are crucial for Erickson. The interpretivist notion of validity hinges on coherence. It is vital for the researcher to include a plausible account of the construct. We have attempted to document and warrant assertions in detail in this study.

Qualitative data were collected through interview, online messages and chats. Interviews were audio taped and transcribed later for analysis. Messages that teachers sent out on FirstClass, and chat sessions with peers and students were analyzed. Teachers participated in text-based chat sessions with students and peers, which were saved by them for analysis on a voluntary basis.

Quantitative Data

The quantitative data that were collected was primarily the amount of time that teachers spent in various activities as part of the process of teaching. Data collection was based on self-report because teachers were teaching this course at a distance and direct observation was not possible. Teachers participated in a variety of activities related to the course, such as: planning and preparation, teaching, administration, interaction with peers, interaction with the learning environment (conferencing system) and interaction with students. Quantitative data is reported in a separate study. This paper examines teacher-student interaction from the perspective of the teacher and documents teacher perceptions regarding time spent on teaching the distance class.

Researcher Role, Choices Made and Implications

The researchers were participants in the class setting. One of the researchers was a complete participant and the other researcher occupied a role where she was more of an observer than a participant. Being participants in the setting enabled us to collect data that was rich in detail, particularly in the interview mode. Our familiarity with the participants made it possible for us to obtain intimate details about their background and gain better access to their thoughts during the interviews. Further, both researchers have taught courses using web and conferencing technologies as a medium. Thus, we were naturally interested in this setting, and able to easily obtain access to the setting.

Discussion

As the researchers observed the settings, interviewed the actors, and thought about the data, several issues emerged from the observations and interviews. Researchers reviewed the data obtained from the various sources several times. They identified certain common patterns and themes that emerged from the data. Following are the main themes that most of the data related to:

- *Teaching style in the distance setting*: Teachers teach differently in the distance setting than they do in the traditional setting. Teachers perceive their role to be different in the online setting when compared with their role in the traditional face-to-face setting.
- *Dialog with students*: Dialog is made up of different forms of communication with students. Examples are chat, e-mail, and face-to-face interaction. It was obvious that these forms of communication also were used for a variety of purposes and that what was communicated is just as important as how it was communicated.
- *Time spent on teaching the distance class*: Teachers felt that they spent more time on teaching a distance class than a traditional class. In fact the other two issues outlined here seemed to be directly connected to the time spent on the class.

Since rich data sources were available for assertions concerning teaching style and dialog with students, the present study is focused on these issues. Based on repeated readings of the data obtained from various sources such as interview, observations and text messages from the conferencing system, researchers generated some assertions. Then we proceeded to warrant our assertions by searching the data for confirming and disconfirming instances. These assertions have changed and evolved several times during the process of analysis. We found that these assertions were strong because there was a preponderance of data that supports the assertion rather than data that disconfirms the assertion. Based on this process, some of our preliminary assertions were dropped, and two assertions were strengthened. The first assertion examines the issue of time spent on teaching online courses and the second assertion explores the area of student-teacher dialog. We will now present these two and provide warrant for them.

Assertion 1: While teachers may be required to spend more time when they teach a course in the online format, they believe that it is worthwhile for them to put in the extra effort.

Teachers who teach courses at a distance perceive the need to do a lot of work to put a course online. A teacher needs additional help to start an online course, and then continue teaching it in that format. Teaching in an online or computer mediated environment seems to somehow alter the role of the teacher as well as change the interaction dynamic between teacher and students and between students themselves. In the traditional classroom, the teacher is the source of knowledge and people seem to believe that knowledge flows from the teacher to the student. In the computer mediated classroom, learning requires the student to participate in a variety of activities such as interaction and discussion with other students, interaction with the teacher, reading messages posted in the conferencing system and accessing the class web page for content and resources. The teacher believes that she gets a greater level of commitment with students who participate in the computer-mediated environment. She feels that this may primarily be due to the fact that students can be present in the learning environment only when they are ready to participate and contribute to the learning environment. This viewpoint may be illustrated in the following quotation from my interview with her:

> *Teacher*: And that's what I like about the online courses, is that when someone is there, they are doing something or they are not there. So I think it is a much more individual sense of time and what they are doing. And I like that. I also like the level of commitment and interaction that you get, which I didn't get in a traditional class. I would really struggle sometimes to get somebody to contribute something.

The teacher's perception was that she got a better idea of each individual person's thought process in the online environment whereas it was easier for some students not to participate in a traditional teacher-centered class. She also felt that the mediated environment seems to encourage better interaction because students do not have the traditional distractions that they may have in a face-to-face environment. Students have an opportunity to really think about what they want to say before they post it to the conferencing system, and this seems to enhance the quality of what they have to say. Further, every student has an opportunity to contribute to class discussions in this online environment and they tend to write and communicate freely with the teacher using the medium of chat or e-mail. The teacher mentioned that from past experience, it is only students who are new to the conferencing environment who are usually reluctant to initiate online conversations with her. When questioned, they said that they did not want to interrupt whatever she was doing. She mentioned that she now usually makes it a point to initiate contact with students via chat when they are logged on simultaneously and let them know that she was available if they needed help. This clarified things and encouraged them to communicate with her if they needed help.

In spite of the fact that she needs to put in extra effort, the online course has somehow brought the teacher closer to her students. She is able to relate to the distant students and feel close to them because she can

communicate individually with them and understand problems that they might be having. In the online setting, the teacher has an opportunity to interact with all students in the class unlike her traditional class where only certain students communicated with her. Students also concurred with this viewpoint. The following is an excerpt from an evaluation that one of the students wrote:

> *Student 1*: I think that I learned more in this class then I would have in a traditional setting. In a traditional setting, I would not have interacted with the instructors and students as much as I did. Also, I would not have had as much time to work on the assignments, do research and read, as I did in this class. I often find that the research and reading get pushed aside when I am in a traditional course, but this did not occur in this class.... I would also like to thank the instructors for their timely feedback. I found it very useful to be able to chart my progress and to get such specific feedback.

Students feel very involved with the online class and relate to it in a different manner. An important factor that may contribute to involvement, is course structure. Students were required to participate in group-discussions and collaborate with group members. Requiring students to take responsibility for what happens in the classroom environment and providing close interaction with faculty seems to foster a sense of commitment in the students:

> *Student 2*: I also enjoyed collaborating with group members. I felt more responsible for my participation in the course and felt that I "influenced" the course in some way.

When teachers participated in online discussions and were simply present online, they felt that students were more satisfied and participated actively in the conferencing system. The students felt that the teacher was more 'present' and available for them, and consequently, the teacher was able to get more out of the students. Both teachers and students felt closer to one other and were able to share thoughts and ideas. They contend that while this might also happen in a traditional class for some students, all students in a distance course would have the opportunity to experience this closeness. Another student expressed her thoughts:

> *Student 3*: There were many things I liked about the course. I liked being able to talk to ___ (the teaching assistant) a lot. I found him very reassuring. He helped to alleviate my fears. Whenever, I had a problem, he was always a chat command or e-mail away. He also made sure not only to chat with me about class-related elements, but also about more personal things such as the topic of his dissertation and his future career plans, making me feel like he cared about more than my academic progress. I think this is very important for instructors to do, and I try to do it myself.

The teacher had a teaching assistant who helped her immensely in teaching the course and in administering the conferencing system. This was an important factor because it gave her the opportunity to focus on facilitating the course and spending a good amount of time interacting with students. The teaching assistant helped out with all aspects of the course, particularly in grading assignments and responding to technology related among other things. The teacher and the assistant shared their responsibilities, so that the assistant focused more on administrative, technical functions, while the teacher maintained a general overview and conducted most of the other activities related to the course.

In analyzing the data with regard to time, it is interesting to note that in a traditional course taught in the summer, teachers would have to spend a total of about 75 to 100 hours on the course. In this online course, however, teachers spent two to five times as much time. Another interesting pattern noted was that the teaching assistant spent more than twice the amount of time the teacher spent on the class (377.75 hours versus 98.83 hours spent by the teacher). In fact, looking at the data collected with regard to the amount of time that the teacher spent, 30.83 hours was spent interacting with students. In contrast, the teaching assistant spent 94.16 hours interacting with students. It is obvious that the teaching assistant spent a greater amount of time on the course, even though percentages of time spent look very similar. This could have been partially due to the fact that the assistant was a younger and more inexperienced teacher. Thus, he needed to spend more time teaching and preparing for the class when compared to the experienced teacher. It probably also had something to do with the personality of the teaching assistant. The assistant loved to work online and was logged in even at times when he was not required to be. Thus, when students logged in, they always had an opportunity to interact with him via chat or e-mail. Looking at percentages of time spent in the various activities pertaining to the class, it was interesting to note that both teaching assistant and teacher managed to constantly remain in touch with each other and the students even when they were located physically in different states.

A study of the patterns of time spent indicate that teachers spent more time on administration and planning than in the area of interaction. Further, since the class required to students to participate in online discussions, teachers spent a lot of time reading these discussions and contributing to them. Overall, the online course required at least two teachers for a group of 17 students. They also had an intern who helped in posting assignments on the web. One reason why online courses need so much time may be because of the fact that these courses need to be constantly updated. Teachers noted that online courses need a lot of work even if they had taught the course in a similar format earlier. Teachers required students to use Internet resources for the course and they agreed that

updating online resources was a time-intensive task. Interaction with students and administration also involved a lot of work. In spite of having to spend the extra time on the course, teachers like to teach in this format. One important reason for this was flexibility. Teachers can teach the course from anywhere and they have the ability to reach students asynchronously at any time via e-mail. Thus, they could complete their responsibilities at their convenience. Flexibility was an important factor for students also, as indicated in their course evaluations. Teachers felt that this flexibility enabled students and teachers to experience a better quality of learning and teaching. This viewpoint is evident in the following excerpt from an interview with the teacher:

> *Teacher*: Well, I think it is much more time intensive, but I like the quality of time better. I think that if I compare the two, going to class once a week, and having office hours, I interact with a lot more students individually. The only people who came into office hours were people who were on campus. Most people were not going to make an effort to come to campus to appear at an office hour. So, generally, I got to know some students really well in a face-to-face classroom. But if I had to go back now and teach these courses once a week and that was the only contact I had with the students, I wouldn't be very happy.

Most students liked the course once they got used to the technology and the format. This is evident from another student evaluation:

> *Student 4*: I also think that once you become comfortable with a new environment it is difficult to go back to the traditional learning environment without feeling some dissatisfaction. Once you know and experience other possibilities you tend to want to continue to have those options. Before the experience there was nothing to compare... I would definitely take another distance learning class. In fact, given a choice, I am sure I would choose this format over the traditional classroom environment.

Teachers and students feel that they got to know each other well during the course of the class. This helped students build a rapport with teachers and contributed to their course participation. Considering the pros and cons of teaching in an online environment, teachers perceived that it was worthwhile to put in the extra effort to teach such a course because it afforded them flexibility and brought them closer to their students. This closeness consequently seems to enhance student participation and satisfaction with the course as evaluated based on course evaluations.

Assertion 2: Teaching style, personal philosophy and background of a teacher affect course design and student-teacher interaction in an online course.

Teachers have particular teaching styles and this affects everything they do as teachers. Teachers have various reasons for adopting a particular style of teaching. It was important for the teacher of the course under study to get students involved and actively engaged in the course. Her teaching philosophy directly affected the way she designed the course. Her personal teaching style influenced by her educational experience and background had a profound effect on teaching style.

Teachers have various reasons for adopting a particular style of teaching; even a specific method of using technology as a medium of teaching. The participant in the study did not outline instructional objectives and select appropriate learning experiences systematically at the beginning of the course; nor did she identify a static body of information that she would transmit to students. She took control of the fact that she was having problems with her face-to-face class and decided to re-structure the class so that it was more student-centered. The following excerpt from her interview underscores this feeling:

> *Teacher*: There is something missing with my teaching in face-to-face class. I can go into a classroom and it is really great and I have all these lectures prepared, and I used to do those cooperative learning exercises...I always felt that they were a little contrived. I was always trying to plan how to involve people and get them going and at the end of it, I felt good about the class, but I could see people yawning and nodding off, and not always participating and that always frustrated me; because I thought 'why are they sitting here and not doing something?'

It bothered her when she found that students were not actively involved in the learning process. A socio-cognitive constructivistic approach to learning emphasizes that learning is an active and evolving process. Learners are constantly engaged in integrating new information into existing knowledge structures. Through the on-going interaction between teacher and student, development of meaningful, valid and increasingly complex knowledge structures are encouraged. This demands two-way communication where students attempt to explain their interpretation and listen to others' understanding. The teacher in the study believed that it was important for her to get students involved in the course, and actively engaged in the learning process. She also wanted flexibility in what the students learned as well as how they learned. This fits in with the Deweyan notion that children learn both inside and outside of school (Dewey, 1938). In this situation, students are literally learning outside school. Being physically outside the school, they are able to bring their outside experiences into the classroom.

While the teacher used flexible learning strategies, there is a paradoxical need for her to maintain control of the classroom. From her personal experience, this teacher believed that an organized learning environment was not

necessary for students to learn because students would learn when they found the need to learn something that is of interest to them. Yet, at the same time, the teacher had a personality that wanted to be in control of the learning environment. The teacher provides reasoning for this by providing information about her own educational background. The following is another excerpt from her interview:

> *Teacher*: We moved every year. I went to 13 or 14 different schools and one year we moved in May and I went to another city and another school and I wasn't doing the same work they had done and so they put me back, so I had to do fifth grade again. I was so humiliated. So I repeated fifth grade. Then we went to Switzerland. In sixth grade I did about 2 weeks of school. My mother was supposed to home teach me, but she didn't manage to, and so that was a whole loss of a year and at the end of that year, we moved back to NY and I had 2 weeks of school and again, it was the end of this year, and I was in 6th grade. They just went ahead and put me in 7th grade the next year and I was there for 2 weeks and they put me in 8th grade. So I basically repeated 5th grade twice and the next class I was in was the 8th grade. So I had a very unconventional education and basically felt that whatever I needed to know, I learned, whenever I wanted to learn it. So I felt that organized education was a big waste of time. And I am sure that is what underlies my whole philosophy and why I like this medium. Although it is organized, there is flexibility for the students to work through it…Again, the distance ed. courses that are not successful, are the ones that are not very well structured.

The teacher borders on extreme child-centered learning here. She relates her personal experiences and believes that she learned a lot even without a so-called structured education. She however qualifies her experience and relates it to the new technological environment that she teaches in. She is quick to point out that structure is an important component of the distance education metaphor. She therefore believes that having structure is important in a course, again consistent with the holistic paradigm. Structure, in this context is different from control. Control is determined by a single authority figure, whereas structure can be emergent. This teacher provides flexibility inside an organized environment and underlies the fact that structure is different from chaos. For example, she allowed students to select questions for discussion, given a general topic area to work with. Thus, some of the content of learning is also emergent. Dewey believed that it is miseducational for teachers to impose content on the learner (Dewey, 1938). The teacher also realized this. She wanted students to see the relevance of what they were learning. Yet, she reserved final judgement on what they learned. This is again an important indicator that the teacher's position with regard to content was close to critical democracy (Goodman, 1992).

In warranting the above assertion, the researchers examined the data and found that this teacher believes in providing the students with the ability to learn flexibly. Her epistemological position may be identified as 'phenomenological'. She had structured her course in the transaction position (Miller and Seller, 1985). In the transaction position, the student is seen as rational and capable of intelligent problem solving. Education is viewed as a dialog between the student and the curriculum in which the student reconstructs knowledge through a dialogical process. The historical antecedent is the period of the Enlightenment, and the influential people most closely allied with the transaction position, according to Miller and Seller, are Horace Mann, John Dewey, and Jean Piaget. The teacher provided opportunities for students to collaborate with each other and structured appropriate learning experiences in the form of group discussions conducted through the conferencing system. Further, the teacher encourages (on certain weeks even requires) students to discuss some aspect of the learning content among themselves.

There is a strong emphasis on giving the students an opportunity to interpret what they learn. Meaning-making is again central to the holistic tradition. Dewey believed that the role of the teacher is to 'guide' the educational process, not 'teach' it. This teacher encouraged students to explore topics within the general area of learning. Although she gave students the opportunity to choose what they wanted to learn (negotiation), the negotiation was allowed within the framework of content and structure provided by the teacher. Yet, this teacher thought that her personality was oriented towards being more of a controlling person. She mentioned that although she likes to take control in a traditional class, she made a special effort not to do that in the online class. Therefore, she achieved a delicate balance between control she exerted on the curriculum, and flexibility that she allowed students in the online medium.

The learning experience provided in an online environment is therefore determined by the type of activities encouraged in the class. The teacher determines these activities and other aspects of course structure. The teacher's personality and background have a bearing on her ideas of what learning is and her epistemological position. Consequently, this has influence on the way the teacher designs her course and the activities that she includes in the online learning environment. Again, course structure also has direct bearing on the role the teacher takes on in an online class and the time she spends on it.

Conclusions

The lack of communication between student and teacher in the distance education environment is one of the most debated topics in the field. Although the characteristics of each technology affect the ability of participants to communicate, the choice of the technology to be used in the class was a personal decision made by the teacher of the

course. While a conferencing system provides a means of communication, simply having the means of communication does not mean that effective communication takes place. One needs to assess the type and quality of interaction that does take place using these media. The course that I observed uses computer conferencing as a medium of delivery to ensure that students have an opportunity to interact with the instructor. The success of such a system would depend on the quality of the feedback that the teacher provides, and learning environment the teacher creates for the students. The implementation of such a system does not guarantee a better quality of learning, it at least opens up an avenue of communication between teachers and students. This again underscores the idea that philosophy and personality are definite factors that determine how teachers structure their courses. The teacher's beliefs guided her in the process of course design; therefore, her teaching philosophy affected the way she has designed the course.

A recent naturalistic research study (Annand, 1998) that examined six instructors' experiences with computer conferencing, documented how these instructors understood the educative process in computer conferencing and its relationship to themselves and their students. The findings reveal that instructors' varied personal philosophies of learning were foundational in delineating their relationship with the technology. But other aspects, such as recognition of students' learning styles, the instructors' repertoire of preferred pedagogical strategies, and the discourse patterns privileged by computer mediated communication (CMC), were also important influences in their understanding of students' computer conferencing practices. In the present study, the teacher's philosophy, personality, and technology create a complex interplay of factors that influence how the teacher structures her course. Her beliefs guided her in the process of course design; therefore, her teaching philosophy affected the way she designed the course. The technology she was using to teach the online class also had an undeniable effect on how she taught her distance class.

Teachers who teach the online course perceive the need to do a lot of additional work for such a course. While they could have spent less time teaching the online course, they felt that the amount of time spent contributed to a worthwhile teaching experience. This was mainly because the online metaphor gives students and teachers great flexibility in terms of participation. Also, students were more satisfied with the course and participated actively in the conferencing system because they felt that the teacher was more 'present' and available for them, and consequently, the teacher felt that she was able to get more out of the students.

In conclusion, structure and dialog are inherently related, as pointed out by Moore (1991). Further, teacher personality, emotions and philosophy are factors that affect course structure in an online course. Dialog, of course, relies on the ability of the students to interact with each other and the teacher, but dialog needs to be fostered and nurtured by the teacher. Interaction has to occupy an important place in the design of the course and only the teacher can give it such a status by making it a priority. All decisions she makes with regard to the structure of the course have a direct impact on dialog. It would be interesting to examine the degree to which teacher personality is a factor that determines course success regardless of the limitations and structure imposed by technology and other factors.

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